

a safer reactor

# INSIGHTS

#### PERSPECTIVES

# 866 A MOLECULAR DANCE TO CLEANER AIR

Pairs of mobile copper ions intercept oxygen molecules in diesel-exhaust catalysts By T. V. W. Janssens and P. N. R. Vennestrøm

► RESEARCH ARTICLE P. 898

# 867 GLIA PUT VISUAL MAP IN SYNC

Sequential intercellular signals synchronize neuronal differentiation to assemble a visual map By J. Isaacman-Beck and T. R. Clandinin RESEARCH ARTICLE P. 886

### **869 FINDING A NEW PURPOSE** FOR OLD DRUGS

Drugs used for the treatment of asthma might prevent Parkinson's disease By E. Y. Snyder ► RESEARCH ARTICLE P. 891

#### **871 THE ARCHITECTURE OF** TRANSCRIPTION ELONGATION

A crystal structure explains how transcription factors enhance elongation and pausing By T. Fouqueau and F. Werner ► REPORT P. 921

### **872 ENZYMES MAKE LIGHT WORK** OF HYDROCARBON PRODUCTION

An algal enzyme that uses visible light to catalyze hydrocarbon formation may find use in biotechnology By N. S. Scrutton ► RESEARCH ARTICLE P. 903

# **873 SOUNDING OUT OPTICAL PHONONS**

Phonon-based analogs of electronic devices offer potential for future technologies By D. M. Juraschek and N. A. Spaldin

# 875 HOWARD EICHENBAUM (1947-2017)

A neuroscientist who was fascinated by the nature and mechanisms of memory By M. Hasselmo and C. Stern

# **POLICY FORUM**

## 876 INFLUENCE, INTEGRITY, AND THE FDA: AN ETHICAL FRAMEWORK

Evaluate external influences on scientific deliberations By S. P. Hey et al.



850 News at a glance

#### IN DEPTH

### **853 HOW AN OCEAN CLIMATE CYCLE FAVORED HARVEY**

Human factors may prolong stormboosting Atlantic Multidecadal Oscillation phase By J. Rosen

### 854 Hurricane Harvey provides lab for U.S. forecast experiments

By P. Voosen

#### 855 ANTI-INFLAMMATORY PREVENTS **HEART ATTACKS**

By vindicating theory, antibody result points to new approaches to protecting the heart By J. Couzin-Frankel

#### **856 SCIENCE SUFFERS AS CHINA PLUGS** HOLES IN GREAT FIREWALL

New restrictions hamper access to sites useful for research By D. Normile

# 857 TOXIC ALGAE MAY BE CULPRIT IN MYSTERIOUS DINOSAUR DEATHS

Harmful blooms may explain 70-million-year-old deathbed of birds and dinosaurs By C. Gramling

# **857 INDIA'S DARK MATTER QUEST**

Underground physics laboratory opens this week By P. Bagla

SCIENCE sciencemag.org

# **858 REPORTS RAISE CONCERNS ABOUT** FRANCE'S NUCLEAR WASTE TOMB

Major roadblocks remain for a massive underground storage site in the works since 1991 By E. Pain

# **FEATURES**

#### **859 THE CASE OF THE MACHO CROCS**

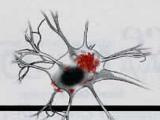
Something is changing the sex of Costa Rican crocodiles. The suspect: a synthetic hormone By M. Leslie ► VIDEO

#### **862 ATOMIC BONDING**

A U.S.-China project to secure bombgrade reactor fuel is rekindling ties between the two countries' nuclear scientists By R. Stone

► PODCAST

I SEPTEMBER 2017 · VOLUME 357 · ISSUE 6354



for Parkinson's disease

#### BOOKS ET AL.

# **878 ADAPTING TO THE ANTHROPOCENE**

A provocative treatise argues that, for many species, the era of extinction may be all right By A. Mooers

#### **879 TUBERCULOSIS TODAY**

A researcher provides a firsthand look at a prolific killer By H. Bynum

#### LETTERS

## 880 INTELLIGENT DESIGN ENDANGERS EDUCATION

By H. M. Silva

# 880 SCIENTISTS NEED **SOCIAL MEDIA INFLUENCERS**

By M. Galetti and R. Costa-Pereira

#### **881 YACHAY'S PROMISE**

By C. Castillo-Chavez et al.

# **881 TECHNICAL COMMENT ABSTRACTS**

# RESEARCH

# IN BRIEF

882 From Science and other journals

# REVIEW

#### **885 BIOGEOGRAPHY**

Island biogeography: Taking the long view of nature's laboratories R. J. Whittaker et al. REVIEW SUMMARY: FOR FULL TEXT: dx.doi.org/10.1126/science.aam8326

# RESEARCH ARTICLES

# 886 NEURODEVELOPMENT

Glia relay differentiation cues to coordinate neuronal development in Drosophila V. M. Fernandes et al.

▶ PERSPECTIVE P. 867



#### **891 PHARMACOGENOMICS**

B2-Adrenoreceptor is a regulator of the α-synuclein gene driving risk of Parkinson's disease S. Mittal et al.

► PERSPECTIVE P. 869

#### **898 CATALYSIS**

Dynamic multinuclear sites formed by mobilized copper ions in NO, selective catalytic reduction C. Paolucci et al.

▶ PERSPECTIVE P. 866

#### 903 PLANT SCIENCE

An algal photoenzyme converts fatty acids to hydrocarbons D. Sorigué et al.

PERSPECTIVE P. 872

### REPORTS

# 908 ORGANIC CHEMISTRY

Hydrogenation of fluoroarenes: Direct access to all-cis-(multi)fluorinated cycloalkanes M. P. Wiesenfeldt et al.

#### 912 MICROBIOTA

The intestinal microbiota regulates body composition through NFIL3 and the circadian clock Y. Wang et al.

#### 917 PLANT ECOLOGY

Global climatic drivers of leaf size L.J. Wright et al.

#### 921 TRANSCRIPTION

Structure of the complete elongation complex of RNA polymerase II with basal factors H. Ehara et al.

► PERSPECTIVE P. 871

#### 925 DEVELOPMENT

A microtubule-organizing center directing intracellular transport in the early mouse embryo J. Zenker et al.

#### 928 STRUCTURAL BIOLOGY

Structural basis of the redox switches in the NAD\*-reducing soluble [NiFe]-hydrogenase Y. Shomura et al.

#### 932 REPROGRAMMING

Fertile offspring from sterile sex chromosome trisomic mice T. Hirota et al.

#### DEPARTMENTS

#### **849 EDITORIAL**

Measuring and managing bias By Jeremy Berg

#### 942 WORKING LIFE

The stories behind a CV By Wei Ji Ma

# ON THE COVER



A woman grips a giant Monstera leaf, a common plant genus of the American tropics. Leaf size varies enormously with differences in air temperature, light, and soil moisture, which

affect the possibility of leaves overheating during the day or suffering frost damage at night. Thus, hot deserts and cold high-elevation sites are characterized by small-leaved species, whereas plants in warm rainforests tend to have larger leaves. See page 917. Photo: Mark Notari/Getty Images

Science Staff	846
New Products	936
Science Careers	937

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW. Washington, DC 20005, Periodicals map pushage (publication No. 484-460) paid at Washington, DC, and additional maining offices. Copyright in 2017 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS, Domestic individual membership and subscription (51 issues). \$1650, Foreign postage extra. Mosico, Caribbean (surface maily 355 other countries (air assist calleary) \$450, Foreign postage extra. Mosico, Caribbean (surface maily 355 other countries (air assist calleary) \$450, Foreign postage extra. Mosico, Caribbean (surface mail) \$550, other countries (air assist calleary) \$450, Foreign postage extra. Mosico, Caribbean (surface mail) \$550, other countries (air assist calleary) \$450, Foreign postage extra. Mosico, Caribbean (surface mail) \$550, other countries (air assist calleary) \$450, Foreign postage extra. Mosico, Caribbean (surface mail) \$550, other countries (air assists) \$450, other countries (air assists) \$450, other calleary) \$550, other calleary \$5

SCIENCE sciencemag.org